

Dry Powder Cells and Cell Culture Reagents and Methods of Production Thereof

ABSTRACT

5 The present invention relates generally to nutritive medium, medium
supplement, media subgroup and buffer formulations. Specifically, the present
invention provides powder nutritive medium, medium supplement and medium
subgroup formulations, particularly cell culture medium supplements (including
powdered sera such as powdered fetal bovine serum (FBS)), medium subgroup
formulations and cell culture media comprising all of the necessary nutritive
10 factors that facilitate the *in vitro* cultivation of cells. The invention further
provides powder buffer formulations that produce particular ionic and pH
conditions upon reconstitution with a solvent. The invention is particularly
directed to methods of production of these media, media supplement, media
subgroup and buffer formulations, and also provides kits and methods for
15 cultivation of prokaryotic and eukaryotic cells, particularly bacterial cells, yeast
cells, plant cells and animal cells (including human cells) using these dry powder
nutritive media, media supplement, media subgroup and buffer formulations. The
invention also relates to methods of producing sterile powdered media, media
supplement (particularly powdered sera such as powdered FBS, powdered
20 transferrin, powdered insulin, powdered organ extracts (such as bovine brain or
pituitary extracts), powdered growth factors (such as EGF, FGF, etc.) and the
like), media subgroup and buffer formulations. In a particularly preferred aspect,
the invention relates to such methods wherein the sterilization is accomplished by
gamma irradiation. The invention also relates to methods for producing dry cell
25 powders, comprising spray-drying a cell suspension. The invention also relates to
cell, media, media supplement, media subgroup and buffer powders produced by
these methods.